AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) An apparatus comprising:

a first processing circuit configured to generate a plurality of reconstructed samples in response to a plurality of macroblocks of an input signal; and

a second processing circuit configured to (A) determine an intra prediction chroma mode 0 from a plurality of intra prediction chroma modes, (B) generate a plurality of sum values S0, S1, S2 and S3 based on said reconstructed samples for each of a plurality of chroma sub-blocks respectively of a current block, said sum values being used in a plurality of formulas ~~organized as a plurality of groups~~ and (C) ~~(B) individually~~ determine a plurality of intra prediction chroma mode 0 ~~DC~~ predictors A, B, C and D for each of ~~a plurality of~~ said chroma sub-blocks respectively ~~of a current macroblock~~, wherein in a first case concerning a first of said chroma sub-blocks having only said sum value S0 unavailable, said intra prediction chroma mode 0 predictors are generated using said formulas A=(S2+2)/4, B=(S1+2)/4, C=(S3+2)/4 and D=(S1+S3+4)/8 ~~(i) all of said intra prediction DC predictors are generated using said formulas in a first of said groups when all of said sum values are available and (ii) both (a) one of said intra prediction DC predictors is generated using a respective one of said formulas in a second of~~

~~said groups and (b) a remainder of said intra prediction DC predictors are generated using respective ones of said formulas in said first group when only a single one of said sum values is unavailable~~.

2. (ORIGINAL) The apparatus according to claim 1, wherein said second processing circuit is implemented in a decoding loop of an encoder.

3. (CURRENTLY AMENDED) The apparatus according to claim 1, wherein (i) said first and said second processing circuits ~~comprise~~ are part of a decoder and (ii) said second processing circuit is further configured to use a subset of said formula to generate said intra prediction chroma mode 0 predictors of said first chroma sub-block, said formulas in said subset being identified in a signal received within an compressed and encoded video bit stream.

4. (ORIGINAL) The apparatus according to claim 1, wherein said apparatus comprises an H.264 compliant decoder.

5. (CURRENTLY AMENDED) The apparatus according to claim 1, wherein said second processing circuit comprises:

a third processing circuit configured to generate said chroma sub-blocks ~~an intra predicted chroma sub-block~~ in response to ~~one of~~ said intra prediction chroma mode 0 ~~DC~~ predictors.

6. (CURRENTLY AMENDED) The apparatus according to claim 5, wherein said second processing circuit further comprises:

a control circuit configured to generate said intra prediction chroma mode 0 ~~DC~~ predictor for each of said chroma sub-blocks in response to said reconstructed samples.

7. (CURRENTLY AMENDED) The apparatus according to claim 6, wherein said control circuit is further configured to determine a position of a top edge and a left edge of a chroma block of said current macroblock in a current slice.

8. (PREVIOUSLY PRESENTED) The apparatus according to claim 7, wherein said reconstructed samples comprise a plurality of reconstructed samples in a row adjacent to said top edge of said chroma block.

9. (PREVIOUSLY PRESENTED) The apparatus according to claim 7, wherein said reconstructed samples further comprise a plurality of reconstructed samples in a column adjacent to said left edge of said chroma block.

10. (CANCELED).

11. (CANCELED).

12. (CURRENTLY AMENDED) An apparatus comprising:

means for generating a plurality of reconstructed samples in response to a plurality of macroblocks of an input signal; and

means for (A) ~~generate~~ determining an intra prediction chroma mode 0 from a plurality of intra prediction chroma modes, (B) generating a plurality of sum values S0, S1, S2 and S3 based on said reconstructed samples for each of a plurality of chroma sub-blocks respectively of a current macroblock, said sum values being used in a plurality of formulas ~~organized as a plurality of groups~~ and (C) ~~(B) individually~~ determining a plurality of intra prediction chroma mode 0 predictors A, B, C and D for each of ~~a plurality of~~ said chroma sub-blocks respectively ~~of a current macroblock~~, wherein in a first case concerning a first of said chroma sub-blocks having only said sum value S0 unavailable, said intra prediction chroma mode 0 predictors are generated using said formulas A=(S2+2)/4, B=(S1+2)/4, C=(S3+2)/4 and D=(S1+S3+4)/8 ~~(i) all of said intra prediction chroma mode 0 predictors are generated using said formulas in a first of said groups when all of said sum values are available and (ii) both (a) one said intra prediction chroma mode 0 predictors is generated using a respective one of~~

~~said formulas in a second of said groups and (b) a remainder of said intra prediction chroma mode 0 predictors are generated using respective ones of said formulas in said first group when only a single one of said sum values in unavailable~~.

13. (CURRENTLY AMENDED) A method for intra prediction of a chroma block comprising the steps of:

(A) generating a plurality of reconstructed samples in response to a plurality of macroblocks of an input signal using a first processing circuit;

(B) determining an intra prediction chroma mode 0 from a plurality of intra prediction chroma modes;

(C) generating a plurality of sum values S0, S1, S2 and S3 based on said reconstructed samples for each of a plurality of chroma sub-blocks respectively of a current macroblock, said sum values being used in a plurality of formulas ~~organized as a plurality of groups~~; and

(D) ~~(c)~~ determining a plurality of intra prediction chroma mode 0 predictors A, B, C and D for each of ~~a plurality of~~ said chroma sub-blocks respectively ~~of a current macroblock individually~~, wherein in a first case concerning a first of said chroma sub-blocks having only said sum value S0 unavailable, said intra prediction chroma mode 0 predictors are generated using said formulas A=(S2+2)/4, B=(S1+2)/4, C=(S3+2)/4 and D=(S1+S3+4)/8 ~~(i)~~

~~all of said chroma mode 0 predictors are generated using said formulas in a first of said groups when all of said sum values are available and (ii) both (a) one of said intra prediction chroma mode 0 predictors is generated using a respective one of said formulas in a second of said groups and (b) a remainder of said intra prediction chroma mode 0 predictors are generated using respective ones of said formulas in said first group when only a single one of said sum values in unavailable; and~~

~~(D) generating a compressed and encoded video bit stream using said intra prediction chroma mode 0 predictors to reduce spatial redundancy~~.

14. (CANCELED).

15. (PREVIOUSLY PRESENTED) The method according to claim 13, wherein each of said formulas used to generate each of said intra prediction chroma mode 0 predictors is selected independently in response to availability of said reconstructed samples adjacent to said chroma block.

16. (ORIGINAL) The method according to claim 13, further comprising:

generating said reconstructed samples by inverse quantizing and inverse transforming a compressed bitstream.

17. (CURRENTLY AMENDED) The method according to claim 23, wherein in a third case concerning a third of said sub-chroma blocks having only said sum value S1 unavailable, said intra prediction chroma mode 0 predictors are generated using said formulas A=(S0+S2+4)/8, B=(S2+2)/4, said C=(S3+2)/4 and D=(S3+2)/4 ~~further comprising: generating all of said intra prediction chroma mode 0 predictors using said formulas in a fourth of said groups when none of said sum values are available~~.

18. (CURRENTLY AMENDED) The method according to claim 23 ~~17~~, wherein said predetermined constant ~~all of said formulas in said fourth group~~ comprises a median chroma value.

19. (CANCELED).

20. (PREVIOUSLY PRESENTED) The method according to claim 13, wherein each of said intra prediction chroma mode 0 predictors comprises a weighted average of one or more of said sum values.

21. (CURRENTLY AMENDED) The apparatus according to claim 1, wherein in a second case concerning a second of said sub-chroma blocks having only said sum value S0 available, said intra prediction chroma mode 0 predictors are generated using said formulas A=(S0+2)/4, B=a predetermined constant, C=(S0+2)/4 and

D=said predetermined constant ~~said second processing circuit is further configured to generate all of (i) one of said intra prediction DC predictors using a respective one of said formulas in said first group, (ii) two of said intra prediction DC predictors using respective ones of said formulas in said second group and (iii) a remainder of said intra prediction DC predictors using said formulas in a third of said groups when only two of said sum values are unavailable~~.

22. (CURRENTLY AMENDED) The apparatus according to claim 1, wherein said second processing circuit is further configured to generate a signal ~~carrying mode information~~ that identifies a subset of said formulas used by said second circuit to generate said intra prediction chroma mode 0 ~~DC~~ predictors corresponding to said first chroma sub-block, said apparatus further comprising an encoder configured to generate a compressed and encoded video bit stream incorporating said signal ~~mode information~~.

23. (CURRENTLY AMENDED) The method according to claim 13, wherein in a second case concerning a second of said sub-chroma blocks having only said sum value S0 available, said intra prediction chroma mode 0 predictors are generated using said formulas A=(S0+2)/4, B=a predetermined constant, C=(S0+2)/4 and D=said predetermined constant ~~further comprising: generating all of~~

~~(i) one of said intra prediction chroma mode 0 predictors using a respective one of said formulas in said first group, (ii) two of said intra prediction chroma mode 0 predictors using respective ones of said formulas in said second group and (iii) a remainder of said intra prediction chroma mode 0 predictors using said formulas in a third of said groups when only two of said sum values are unavailable~~.

24. (CURRENTLY AMENDED) The method according to claim 13, further comprising the ~~step~~ steps of:

generating a signal ~~carrying mode information~~ that identifies a subset of said formulas used by a second processing circuit to generate said intra prediction chroma mode 0 predictors corresponding to said first chroma sub-block; and ~~, wherein said~~

generating a compressed and encoded bit stream that incorporates said signal ~~mode information~~.

25. (NEW) The method according to claim 13, wherein said first processing circuit is part of a decoder and (ii) said intra prediction chroma mode 0 predictors of said first chroma sub-block are generated using a subset of said formulas, said formulas in said subset being identified in a signal received within a compressed and encoded video bit stream.